

JOURNAL OF THE AMERICAN SOCIETY FOR HORTICULTURAL SCIENCE

VOL. 138, No. 1



JANUARY 2013



LED Red & Blue
Light Treatment
($350 \mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$)

LED Blue
Light Treatment
(5 days)



JOURNAL OF THE AMERICAN SOCIETY FOR HORTICULTURAL SCIENCE

VOL. 138, NO. 1

CONTENTS

JANUARY 2013

- 3 Life Cycle Assessment to Study the Carbon Footprint of System Components for Colorado Blue Spruce Field Production and Use
Dewayne L. Ingram

Applied Genomics

- 12 Characterization of Peach *TFL1* and Comparison with *FT/TFL1* Gene Families of the Rosaceae
Yihua Chen, Peng Jiang, Shivegowda Thammannagowda, Haiying Liang, and H. Dayton Wilde

Developmental Physiology

- 18 Mottling on Sweet Cherry Fruit Is Caused by Exocarp Strain
Eckhard Grimm, Stefanie Peschel, and Moritz Knoche

Environmental Stress Physiology

- 24 Changes in Carbohydrate Metabolism in Two Kentucky Bluegrass Cultivars during Drought Stress and Recovery
Zhimin Yang, Lixin Xu, Jingjin Yu, Michelle DaCosta, and Bingru Huang

- 31 Increases in Shoot Tissue Pigments, Glucosinolates, and Mineral Elements in Sprouting Broccoli after Exposure to Short-duration Blue Light from Light Emitting Diodes
Dean A. Kopsell and Carl E. Sams

- 38 Beneficial Role of Exogenous Spermidine on Nitrogen Metabolism in Tomato Seedlings Exposed to Saline-alkaline Stress

Yi Zhang, Xiao-Hui Hu, Yu Shi, Zhi-Rong Zou, Fei Yan, Yan-Yan Zhao, Hao Zhang, and Jiu-Zhou Zhao

Genetics and Breeding

- 50 Molecular Genetic Diversity in the Turkish National Melon Collection and Selection of a Preliminary Core Set
Anne Frary, Hasan Özgür Şiğva, Ayfer Tan, Tuncer Taşkın, Abdullah Inal, Sevgi Mutlu, Mehmet Haytaoğlu, and Sami Doğanlar

- 57 First Fruiting Intergeneric Hybrids between *Citrus* and *Citropsis*
Malcolm W. Smith, Debra L. Gultzow, and Toni K. Newman

- 64 Microsatellite Marker Development in Peony using Next Generation Sequencing
Barbara Gilmore, Nahla Bassil, April Nyberg, Brian Knaus, Don Smith, Danny L. Barney, and Kim Hummer

On the cover

In their paper (p. 31), Kopsell and Sams discuss the impacts of blue LED lights (470 nm) on the accumulation of secondary metabolites and mineral elements in 'Florida Broadleaf' mustard microgreens. The cover shows microgreens growing under the blue LED lighting treatment. Inset (center) shows microgreen plants grown under red and blue or blue only LEDs. Photos: Dean A. Kopsell.